



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

CERTIFIED MAIL REQUESTED
SIGNATURE REQUIRED

March 9, 2020

COPY

Mr. Robert Staton
Pocahontas Gas LLC
P.O. Box 570
Pounding Mill, VA 24605

RE: Underground Injection Control Permits VAS2D921BBUC, VAS2D930BBUC,
VAS2D960BBUC & VAS2D970BRUS Name Change

Dear Mr. Staton:

The U.S. Environmental Protection Agency (EPA) received your request on December 11, 2019 to make minor modifications to CNX Gas, LLC's Underground Injection Control (UIC) Permits. As evidenced in your email and subsequent financial assurance bonding information we've received, CNX Gas, LLC changed its name to Pocahontas Gas LLC. Therefore, EPA has made minor modifications to UIC Permits VAS2D921BBUC, VAS2D930BBUC, VAS2D960BBUC and VAS2D970BRUS reflecting the new name of the "Permittee". The new permits are enclosed with this letter. Since UIC Permit VAS2D926BBUC is currently in the technical review stage of a permit reissuance, the name was not changed on that permit. Once the permit is reissued, the new name will be reflected.

If you have any questions regarding either permit, please don't hesitate to contact me at rowsey.kevin@epa.gov or 215-814-5463.

Sincerely,

Kevin Rowsey
Source Water & UIC Section
Drinking Water & Source Water Protection Branch

Enclosures

Cc: David Rectenwald, U.S. EPA



Printed on 100% recycled/recyclable paper with 100% post-consumer fiber and process chlorine free.
Customer Service Hotline: 1-800-438-2474



PO Box 570
Pounding Mill, VA 24637

phone: 276-596-5137
robertstaton@cnx.com

December 11, 2019

Mr. Kevin Rowsey
U.S. EPA Region 3 Office
Source Water & UIC Section
Water Division
1650 Arch Street
Philadelphia, PA 19103-2029

RE: Name and Address Change

Dear Mr. Rowsey;

We are writing to request a change to our corporate name and address for all of our UIC wells. CNX Gas Company LLC will become Pocahontas Gas LLC effective January 1, 2020. In addition, I have included documentation of the name change as shown by the State Corporation Commission. The following wells are included in this request.

U7	VAS2D926BBUC
AW114ACV	VAS2D970BRUS
N26	VAS2D930BBUC
BPC 1	VAS2D960BBUC
Ball A-1	VAS2D921BBUC

The new name and address will be:

Mailing address:

Pocahontas Gas LLC
PO Box 570
Pounding Mill, VA 24637

Located at:

128 Glenwood Street
Cedar Bluff, VA 24609

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mary Beth McGlothlin'.

Mary Beth McGlothlin
Manager Land Assets

A handwritten signature in blue ink, appearing to read 'Bob Staton'.

Bob Staton, MS PG
Permitting Agent III

enclosures



CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Mary Beth McGlothlin

Date: 12-11-19

Title: Asst. Secretary

Phone No. 276-596-5009

Signature: Mary Beth McGlothlin



United States Environmental Protection Agency

Application To Transfer Permit/Ownership

Name, Address, Phone Number and/or Email of Existing Permittee

CNX Gas Company LLC
2481 John Nash Blvd
Bluefield, WV 24701

Name, Address, Phone Number and or Email of New Owner

Pocahontas Gas LLC
PO Box 570
Pounding Mill, VA 24637

276-596-5048
276-596-5137

andrewstatzer@cnx.com
robertstaton@cnx.com

State

Virginia

County

Russell

Well Type

☐ Class I☒ Class II☒ Brine Disposal☐ Enhanced Recovery☐ Hydrocarbon Storage☐ Class III☐ Class V

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location

 1/4 of 1/4 of Section Township Range
 ft. from (N/S) Line of quarter section

 ft. from (E/W) Line of quarter section.

Latitude 37 07' 13.6"

Longitude -81 57' 37.5"

Permit (or EPA ID) Number

VAS2D970BRUS

API Number

451670040900

Full Well Name

AW114ACV

Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of a surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the Director.

Wellbore Schematic Attached?



Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR § 144.32)

Name and Official Title of Transferor (Seller)(Please type or print)

Mary Beth McGlothlin Asst. VP

Signature

Mary Beth McGlothlin

Date Signed

1-24-20

Name and Official Title of Transferee (Buyer)(Please type or print)

Mary Beth McGlothlin Asst. Secret.

Signature

Mary Beth McGlothlin

Date Signed

1-24-20



COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

Office of the Clerk

October 31, 2017

TERESA BROWN
CT CORPORATION SYSTEM
4701 COX RD STE 285
GLEN ALLEN, VA 23060

RECEIPT

RE: Pocahontas Gas LLC

ID: T072333 - 0

DCN: 17-10-31-1101

Dear Customer:

This receipt acknowledges payment of \$100.00 to cover the fee for filing an application for a certificate of registration to transact business in Virginia with this office.

This receipt also acknowledges payment of \$200.00 to cover the fee for expedited service.

The effective date of the registration is October 31, 2017.

If you have any questions, please call (804) 371-9733 or toll-free in Virginia, (866) 722-2551.

Sincerely,

Joel H. Peck
Clerk of the Commission

RECEIPTLC
LLNCF
CIS0372

1710100331

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

AT RICHMOND, OCTOBER 31, 2017

The State Corporation Commission has found the accompanying application for a certificate of registration to transact business in Virginia submitted on behalf of

Pocahontas Gas LLC

to comply with the requirements of law, and confirms payment of all required fees. Therefore, it is ORDERED that this

CERTIFICATE OF REGISTRATION TO TRANSACT BUSINESS IN
VIRGINIA

be issued and admitted to record with the application in the Office of the Clerk of the Commission, effective October 31, 2017.

STATE CORPORATION COMMISSION

By



Judith Williams Jagdmann
Commissioner



LLC-1052
(06/16)

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION FOR A CERTIFICATE OF REGISTRATION TO TRANSACT
BUSINESS IN VIRGINIA AS A FOREIGN LIMITED LIABILITY COMPANY

Provide a
Certified
Copy of the
Formation
Document,
as Amended

REVIEW THE INSTRUCTIONS BEFORE SUBMITTING THIS FORM.

LLC's name: Pocahontas Gas LLC *Not Done*

Designated name (if required): _____

State or other jurisdiction of organization: Delaware

Date of formation: 09/22/2017 Period of duration: perpetual

(Mark if applicable:) ☐ The LLC was previously authorized or registered to transact business in Virginia as a foreign business entity. (See Instructions.) *Set forth additional information on an attachment.*

The post office address, including the street and number, of the LLC's principal office is

1000 CONSOL Energy Drive Canonsburg PA 15317
(number/street) (city or town) (state) (zip)

The LLC's registered agent in VIRGINIA is C T Corporation System

The registered agent is (mark appropriate box):

(1) an INDIVIDUAL who is a resident of Virginia and

- ☐ a member or manager of the LLC.
☐ a member or manager of a limited liability company that is a member or manager of the LLC.
☐ an officer or director of a corporation that is a member or manager of the LLC.
☐ a general partner of a general or limited partnership that is a member or manager of the LLC.
☐ a trustee of a trust that is a member or manager of the LLC.
☐ a member of the Virginia State Bar.

OR

(2) ☒ a domestic or foreign stock or nonstock corporation, limited liability company or registered limited liability partnership authorized to transact business in Virginia.

The LLC's VIRGINIA registered office address, including the street and number, if any, which is identical to the business office of the registered agent, is

4701 Cox Road, Suite 285 Glen Allen VA 23060
(number/street) (city or town) (state) (zip)

which is physically located in the ☒ county or ☐ city of Henrico

The Clerk of the Commission is hereby irrevocably appointed as the agent of the limited liability company for service of process if (i) the company fails to maintain a registered agent in Virginia as required by § 13.1-1015 of the Code of Virginia, (ii) the registered agent's authority has been revoked, (iii) the registered agent has resigned, or (iv) the registered agent cannot be found or served with the exercise of reasonable diligence.

The LLC affirms that it is a "foreign limited liability company" as defined in § 13.1-1002 of the Code of Virginia.

Signed in the name of the foreign limited liability company by:

Stephen W. Johnson 10/23/2017 _____
(signature) (date) (telephone number (optional))

Stephen W. Johnson
(printed name)

Senior Vice President
(title) (see Instructions for examples of acceptable titles)

☒ The person signing above has been delegated the right and power to manage the LLC's business and affairs.

Personal information, such as a social security number, should NOT be included in a business entity document submitted to the Office of the Clerk for filing with the Commission. For more information, see Notice Regarding Personal Identifiable Information at www.scc.virginia.gov/clk.

Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED ARE TRUE AND CORRECT COPIES OF ALL DOCUMENTS ON FILE OF "POCAHONTAS GAS LLC" AS RECEIVED AND FILED IN THIS OFFICE.

THE FOLLOWING DOCUMENTS HAVE BEEN CERTIFIED:

CERTIFICATE OF FORMATION, FILED THE TWENTY-SECOND DAY OF SEPTEMBER, A.D. 2017, AT 4:02 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID LIMITED LIABILITY COMPANY, "POCAHONTAS GAS LLC".



A handwritten signature in black ink, appearing to read "JB", is written over a horizontal line. Below the line, the text "Jeffrey W. Bullock, Secretary of State" is printed in a small font.

1710100331

State of Delaware
Secretary of State
Division of Corporations
Delivered 04:02 PM 09/22/2017
FILED 04:02 PM 09/22/2017
SR 20176298865 - File Number 6552586

**CERTIFICATE OF FORMATION
OF
POCAHONTAS GAS LLC**

The undersigned, an authorized natural person, for the purpose of forming a limited liability company, under the provisions and subject to the requirements of the State of Delaware (particularly Chapter 18, Title 6 of the Delaware Code and the acts amendatory thereof and supplemental thereto, and known, identified, and referred to as the "Delaware Limited Liability Company Act"), hereby certifies that:

FIRST: The name of the limited liability company (hereinafter called the "limited liability company") is:

Pocahontas Gas LLC *Not Done*

SECOND: The address of the registered office and the name and the address of the registered agent of the limited liability company required to be maintained by Section 18-104(a) of the Delaware Limited Liability Company Act are:

The Corporation Trust Company
Corporation Trust Center
1209 Orange Street
Wilmington, DE 19801
New Castle County

Dated: September 22, 2017

/s/ Shaun S. Fleming
Shaun S. Fleming, Sole Organizer



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

December 2, 2019

Mr. Andrew Statzer
CNX Gas Company, LLC
P.O. Box 570
Pounding Mill, VA 24637

RE: Authorization to Inject
Well No. AW114ACV
Permit No. VAS2D970BRUS
Swords Creek, Russell County, Virginia

COPY

Dear Mr. Statzer:

EPA Region III Underground Injection Control (UIC) Program Staff have completed the review of the completion reports, financial assurance information, and mechanical integrity test results from the test conducted on September 25, 2019. EPA Permit No. VAS2D970BRUS allows for the injection of fluids produced in association with CNX Gas Company, LLC oil and gas production operations into injection well AW114ACV located in the Buckhorn Coal Tract, Swords Creek, Russell County, Virginia.

The necessary requirements to operate this well have been met, and this letter formally authorizes you to commence injection in accordance with the conditions stipulated by your permit.

If you should have any questions, please contact me or Kevin Rowsey at 215-814-5463 or rowsey.kevin@epa.gov.

Sincerely,

A handwritten signature in black ink, which appears to read "James C. Bennett, Jr.", is positioned above the typed name.

James C. Bennett, Jr., Chief
Source Water & UIC Section
Drinking Water & Source Water Protection Branch





PO Box 570
Pounding Mill, VA 24637

phone: 276-596-5137
robertstaton@cnx.com

November 7, 2019

Mr. James Bennett
U.S. EPA Region 3 Office
Ground Water & Enforcement Branch (3WP22)
Office of Drinking Water & Source Water Protection
1650 Arch Street
Philadelphia, PA 19103-2029

RE: UIC Permit Number VAS2D970BRUS (AW114ACV)

Dear Mr. Bennett;

Please find enclosed the permit modification information for the above referenced UIC well in Russell County, Virginia. This information includes; Completion Report (Form 7520-18), MIT test results, and documentation of financial responsibility. In addition, we attest that there has been no corrective action performed, nor has there been any additional wells drilled, in the area of review.

Please let us know if you require any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andrew Statzer', written over a horizontal line.

Andrew Statzer
Production Engineer

A handwritten signature in black ink, appearing to read 'Bob Staton', written in a cursive style.

Bob Staton, MS PG
Permit Agent III



This certification statement is being submitted as an addendum to a letter to Mr. Kevin Rowsey, dated November 05, 2019, in reference to UIC Permit No. VAS2D926BBUC

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Mary Beth McGlothlin Date: 11-8-19

Title: Assistant Vice President Phone No. 276-596-5009

Signature: 



Received: 7/18/19 CNX

CNX Gas Company LLC

PO Box 570
Pounding Mill, VA 24637

phone: 276-596-5137
robertstaton@cnx.com

July 15, 2019

Kevin Rowsey
Environmental Protection Agency
Source Water & UIC Section
1650 Arch Street
Philadelphia, PA 19103-2029

RE: Underground Injection Control (UIC) Permit
AW114A VAS2D970BRUS

Dear Mr. Rowsey:

In response to your letter dated July 1, 2019, CNX Gas Company LLC hereby submits this letter of acceptance to all the terms and conditions of the permit. In addition, CNX Gas Company LLC would like to appoint Mr. Joshua Ball, *Superintendent of Virginia Operations*, as an authorized representative of Mr. Olayemi O. Akinkugbe, *Vice President of Virginia Operations*.

If you should have any questions, please do not hesitate to call.

Sincerely,

Bob Staton
Permitting Agent III

Andrew Statzer
Senior Production Engineer

CC: file



CNX Gas Company LLC

PO Box 570
Pounding Mill, VA 24637

phone: 276-596-5137
robertstaton@cnx.com

July 15, 2019

Kevin Rowsey
Environmental Protection Agency
Source Water & UIC Section
1650 Arch Street
Philadelphia, PA 19103-2029

RE: Underground Injection Control (UIC) Permit
AW114A VAS2D970BRUS

Dear Mr. Rowsey:

In response to your letter dated July 1, 2019, CNX Gas Company LLC hereby submits this letter of acceptance to all the terms and conditions of the permit. In addition, CNX Gas Company LLC would like to appoint Mr. Joshua Ball, *Superintendent of Virginia Operations*, as an authorized representative of Mr. Olayemi O. Akinkugbe, *Vice President of Virginia Operations*.

If you should have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink that reads 'Bob Staton'.

Bob Staton
Permitting Agent III

A handwritten signature in black ink that reads 'Andrew Statzer'.

Andrew Statzer
Senior Production Engineer

CC: file

COMPLETE THIS SECTION

1. Attach this card to the back of the mailpiece, on the front if space permits.

2. Article Number (Transfer from service label)

3. Service Type

COMPLETE THIS SECTION ON DELIVERY

A. Signature

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? If YES, enter delivery address below:

3. Service Type

4. PS Form 3811, April 2015 PSN 7530-02-000-9053

OPY

Dear Mr. Staton:

Please find enclosed the Underground Injection Control (UIC) permit VAS2D970BRUS. This permit was issued to CNX Gas Company, LLC and been modified to include two additional injection zones. The expiration date of the permit is y 7, 2023. You should respond to the provision of Condition D.9.b. of Part I of the permit and provide appropriate demonstration of the delegation of signatory authority. In addition, please note that per Condition D.1., in Part II of the permit, require that you report back to the EPA within thirty days of your receipt of this letter and attest to the fact that you have read and are personally familiar with all terms and conditions of the permit.

If you should have any questions, please give me a call at 215-814-5463.

Sincerely,

Kevin Rowsey
 Kevin Rowsey
 Source Water & UIC Section
 Drinking Water & Source Water Protection Branch

Enclosure: VAS2D970BRUS
 Electronic Cc: Andrew Statzer, CNX

May 22, 2013

James C Bennett
Environmental Protection Agency
Enforcement Branch (3W922)
1650 Arch Street
Philadelphia, PA 19103

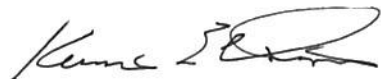
RE: Underground Injection Control (UIC) Permit
AW114A VAS2D970BRUS

Dear Mr. Bennett:

This letter is in response to the issuance of the Underground Injection Control Permit VAS2D970BRUS received in our Bluefield, WV office on May 9, 2013. In your cover letter, it requested that "this permit requires that you report back to the Environmental Protection Agency (EPA) within thirty days of your receipt of this letter and attest to the fact that you have read and are personally familiar with all terms and conditions of this permit". Our operation group and I have reviewed and agree with the terms and conditions within this permit. Therefore, we do not have any comments or requested changes.

If you should have any questions, please do not hesitate to call.

Sincerely,



Kevin Elkins
General Manager, Virginia Operations

December 13, 2012

Mr. James C. Bennett
United States Environmental Protection Agency Region III
Ground Water & Enforcement Branch (3WP22)
Office of Drinking Water & Source Water Protection
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Re: Injection well permit application
AW114A Permit ID VAS2D970BRUS

Dear Mr. Bennett;

Please find included the replacement pages for the above referenced permit application. Subsequent to our phone conversation on 12/5/2012, I have made the revisions regarding the maximum injection pressure (MIP) and the operational schematic. I have included two copies with holes punched for insertion to the permit application.

Attachment C, page 1, should be inserted behind the tab; Attachment C Existing Wells.
Attachment H, page 1, should be inserted behind the tab; Attachment H Operations.
Attachment P, page 1, should be inserted behind the tab; Attachment P Monitoring.
The Proposed Operational Schematic should be inserted behind the tab; Drawings.
Also, I have included the amended responses to the Notice of Deficiency.

I thank you and Mr. Platt for your assistance in the completion of this application.
Please let us know if you need any additional information.

Sincerely,



Bob Staton
Permitting Analyst

Notice of Deficiency Responses (amended 12/5/2012)

UIC Permit # VAS2D970BRUS

CNX Gas Company LLC

Attachment C: Existing Wells within Area of Review

Appendix C should have included the well log for AW114ACV which describes all lithologies from top to bottom hole (6120 ft.). A copy of the well log for the entire well is now included in the application.

Attachment E: Underground Sources of Drinking Water

The description of how the inventory was conducted says that "water samples were collected", however, this statement is meant to infer that if sources are found, then a sample will be collected. The second paragraph states that, "there was no groundwater (sources) found on this date (of the inventory)".

A revised map of all wells, including water wells, within a one-mile radius, is included with the Drawings, at the end of the Appendix. In addition, an updated groundwater inventory survey was conducted on July 2, and is now included in Attachment E.

There are 48 identified potential groundwater sources within one mile radius of the proposed disposal well. The updated survey reveals that no groundwater sources were found within one-quarter mile of the proposed disposal well. None of these sources are anticipated to be affected by the injection well because of the relatively shallow depth of the water wells along with the confining layers above the injection zone (Attachment G).

Attachment G: Geology

The confining zone above the Weir, of the Price formation, consists of shales and siltstones at a depth of 5,310 feet to 5,520 feet, an interval of 210 feet (see geophysical log). These shales and siltstones inherently have lower permeability and provide a confining layer of rock above the injection zone.

The ISIP value was taken from the Halliburton PE Data Sheet approximately half way down the sheet in the Stage 1 column, there is the value for the ISIP Pressure (1500) and the Fracture Gradient (0.58).

After discussions with you on 12/5/2012, Fracture Gradient has been recalculated to 0.72, based on the re-interpretation of the Halliburton stimulation reported data.

Attachment H: Operational Information

Using the aforementioned data, the Maximum Injection Pressure (MIP) can be calculated. The specific gravity (SG) of the injected fluids was estimated using the average of SG from lab analyses of produced fluids going to other injection wells (Appendix E).

$$N26 = 1.04$$

$$U7 = 1.01$$

$$\text{Ball well} = 1.08$$

$$\text{Average SG} = 1.04$$

The calculated fracture gradient (FG) is 0.72, and the proposed midpoint depth (D) of injection is 5,551 feet. Therefore, the MIP is calculated as shown below, which yields a MIP value of approximately 1497 (PSI). We are in agreement that this figure is a conservative value, therefore we request an MIP of 1500 psi for the injection well.

$$MIP = (FG - (.433 \times SG)) \times D$$

$$MIP = (.72 - (.433 \times 1.04)) \times 5,551$$

$$MIP = 1496.99 \text{ (PSI)}$$

The text has been corrected for the location of the fluids analytical test results. The test results are located in Appendix E.

Attachment J: Stimulation Program

The potential gas bearing zones of the Big Lime and the Maxon were perforated when the well was being completed for gas production. These zones will be cemented off prior to using the well for injection purposes.

Attachment L: Construction Procedures

The construction schematic in the Virginia Gas and Oil permit is the proposed casing schematic, prior to drilling. *The casing construction and depths for the injection well reflects the actual well construction after the well was drilled, and includes a locking plug shoe and the base of the casing and cement in the bottom portion of the well.*

Injection tubing and packer will be installed at an approximate depth of 5,422 feet prior to commencement of operations. A copy of the cement bond log is now included in the application (Appendix J).

Attachment R: Financial Resources

Letters from third party independent auditors are included in the financial statement. See Appendix F, 10-K Annual Report, Part IV, Item 15, Exhibits 23.1 and 23.2. Independent auditors are; Ernst & Young, LLP, Independent Registered Public Accounting Firm, and Netherland, Sewell & Associates, Inc. Independent Petroleum Engineers and Geologists.

Notice of Deficiency Responses

UIC Permit # VAS2D970BRUS

CNX Gas Company LLC

Attachment C: Existing Wells within Area of Review

Appendix C should have included the well log for AW114ACV which describes all lithologies from top to bottom hole (6120 ft.). A copy of the well log for the entire well is now included in the application.

Attachement E: Underground Sources of Drinking Water

The description of how the inventory was conducted says that "water samples were collected", however, this statement is meant to infer that if sources are found, then a sample will be collected. The second paragraph states that, "there was no groundwater (sources) found on this date (of the inventory)".

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There are 48 identified potential groundwater sources within one mile radius of the proposed disposal well. The updated survey reveals that no groundwater sources were found within one-quarter mile of the proposed disposal well. None of these sources are anticipated to be affected by the injection well because of the relatively shallow depth of the water wells along with the confining layers above the injection zone (Attachment G).

Attachment G: Geology

The confining zone above the Weir, of the Price formation, consist of shales and siltstones at a depth of 5,310 feet to 5,520 feet, an interval of 210 feet (see geophysical log). These shales and siltstones inherently have lower permeability and provide a confining layer of rock above the injection zone.

The ISIP value was taken from the Halliburton PE Data Sheet approximately half way down the sheet in the Stage 1 column, there is the value for the ISIP Pressure (1500) and the Fracture Gradient (0.58).

Attachment H: Operational Information

Using the aforementioned data, the Maximum Injection Pressure (MIP) can be calculated. The specific gravity (SG) of the injected fluids was estimated using the average of SG from lab analyses of produced fluids going to other injection wells (Appendix E).

$$N26 = 1.04$$

$$U7 = 1.01$$

$$\underline{\text{Ball well} = 1.08}$$

$$\text{Average SG} = 1.04$$

The fracture gradient (FG) was taken from the Halliburton Data Sheet. The proposed depth (D) of injection is 5,522 feet. Therefore, the MIP is calculated as shown below, which yields a MIP value of 716 (PSI).

$$\text{MIP} = (\text{FG} - (0.433 \times \text{SG})) \times D$$

$$\text{MIP} = (0.58 - (0.433 \times 1.04)) \times 5,522$$

$$\text{MIP} = 716.093 \text{ (PSI)}$$

The text has been corrected for the location of the fluids analytical test results. The test results are located in Appendix E.

Attachement J: Stimulation Program

The potential gas bearing zones of the Big Lime and the Maxon, were perforated when the well was being completed for gas production. These zones will be cemented off prior to using the well for injection purposes.

Attachment L: Construction Procedures

The construction schematic in the Virginia Gas and Oil permit is the proposed casing schematic, prior to drilling. The casing construction and depths for the injection well reflects the actual well construction after the well was drilled.

Injection tubing and packer will be installed at an approximate depth of 5,422 feet prior to commencement of operations. A copy of the cement bond log is now included in the application (Appendix J).

Attachment R: Financial Resources

Letters from third party independent auditors are included in the financial statement. See Appendix F, 10-K Annual Report, Part IV, Item 15, Exhibits 23.1 and 23.2. Independent auditors are; Ernst & Young, LLP, Independent Registered Public Accounting Firm, and Netherland, Sewell & Associates, Inc. Independent Petroleum Engineers and Geologists.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

October 10, 2012

Mr. Phillip D. Lowe
Manager, Southern Region
CNX Gas Company, LLC
2481 John Nash Blvd
Bluefield, WV 24701

Re: Injection well permit application

Dear Mr. Lowe:

EPA Region III staff has reviewed the AW114A permit application, submitted for the construction and operation of a Class IID brine disposal well in Russell County, Virginia. Please find enclosed a Notice of Deficiency (NOD) for this permit application. We ask that you submit some additional information which will allow this office to complete their review of the application and begin the process of developing a draft permit for the facility. This application has been assigned the following permit identification, VAS2D970BRUS. Please use this permit identification in all future correspondence. If you should have any questions please give me a call at 215-814-5469 or you may email me at Bennett.James@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "James C. Bennett", with a long horizontal line extending to the right.

James C. Bennett
Ground Water & Enforcement Branch (3WP22)
Office of Drinking Water & Source Water Protection

Attachment
Notice of Deficiency





*Printed on 100% recycled/recyclable paper with 100% post-consumer fiber and process chlorine free.
Customer Service Hotline: 1-800-438-2474*

NOTICE OF DEFICIENCY

For

CNX Gas Company, LLC

UIC permit # VAS2D970BRUS

Please submit the information requested in each of the following attachments associated with CNX Gas Company's injection well permit application for well AW114A:

Attachment C: Existing Wells Within Area of Review

Drawing AW114ACV-1 identifies the following five (5) wells within the ¼ mile area of review: AV114A; AV114; AW114ACV (proposed injection well); AW114; and AW115. Appendix C (Well Logs) shows AW114A total depth 2755.49, however in attachment L different schematics show different depths (see below).

Attachment E: Underground Sources of Drinking Water

EMI Laboratories, Inc. initially surveyed within a 750 foot radius for private drinking water wells. EMI stated they found no groundwater within 500 foot of the proposed well. EMI also stated they sampled wells within 750 foot radius of the proposed well. Drawing AW114ACV-4 shows the absence of any private drinking water wells within ¼ mile of the proposed well. Applicant must explain the difference in these findings. Also, applicant stated that an updated inventory is pending at the time of submittal and will be sent to EPA Region 3 office; however we have not received this updated inventory. A one mile map circumscribing the facility should depict all wells, including drinking water wells.

Attachment G: Geology

You indicated that low permeability shales and siltstones of the Price formation above the Weir sandstone will serve as confining zones. Could you please specify the approximate depth interval and thickness of the Price that you intend to use as the confining zone?

You indicated that ISIP was 1500 psig according to Appendix E. Clarification is needed to where on the graph you are reading this ISIP pressure. Based on our review of the chart the ISIP seems to be closer to 2000 psig. Please pinpoint on the chart where you are reading the ISIP.

Attachment H: Operational Information

You indicated maximum injection pressure will be 1500 psig based on ISIP. The following Equation is used to calculate maximum injection pressure: $MIP = (FG - (.433 \times SG)) \times D$ where $FG = (ISIP + (.433 \times SG \times D)) / D$. (MIP = Maximum Injection Pressure; D= Depth; FG = Fracture Gradient; ISIP = Instantaneous Shut in Pressure; and SG = Specific Gravity.)



You state Appendix R includes test results for fluids that are representative of fluids that will be injected. The information for sampling seems to be included in Appendix E not Appendix R.

Attachment J: Stimulation Program

Your report indicates that you will be injecting into the Weir formation, but three rock units were previously stimulated in the well: the Weir, Big Lime, and Maxon formations. We need to make sure the other stimulated zones have been cemented off. Are these intervals perforated through the 5½ inch casing? Will squeeze cementing be necessary to isolate the other stimulated zones not used for injection of brine?

Attachment L: Construction procedures

The schematic in the Virginia oil and gas permit shows well "AW114A" constructed with fewer casing strings of different diameters than the schematic of well "CBM-AW114ACV" in the UIC application. For example, the state permit shows a 4½ inch production string, and a total depth of 5967 feet below ground surface, while the UIC application shows 5½ inch casing to a depth of 6015 feet. Please confirm that AW114A and CBM-AW114ACV are the same well. If they are the same, which drawing is correct?

There is no injection tubing or packer shown on the proposed operational schematic. Injection tubing and packer must be installed in the well prior to operation.

Are there any cement bond logs(CBL) for the proposed injection well's long string casing? If a CBL does not exist for this casing, they will have to run a CBL to verify cement location and isolation prior to installing tubing and packer.

Attachment R: Financial Resources

One of the requirements to use a financial statement, we need an independent auditor's opinion submitted with the financial statement. Please submit a letter from an independent third-party auditor.

Miscellaneous:

Please submit a second copy of the UIC application. Regulations under the Safe Drinking Water Act require that we make one copy available for public review for a 30 day period once a draft permit has been proposed.

